

Direction de la documentation

Information retrieval

Graduate
Research School

université
de BORDEAUX

Learning objectives



By the end of this training session, you will be able to :

- 1 Put in place an efficient and effective literature search
- 2 Identify key concepts and related terms
- 3 Build search statements
- 4 Carry out advanced searches in search engines and key specialized online databases

Introductions - Wooclap



1

Go to wooclap.com

2

Enter the event code
in the top banner

Event code

PHDINFO25

Information retrieval

Methodology

How to begin your research



From natural language to documentary language

The process consists in translating a sentence formulated in natural language such as the following:

What is the impact of air pollution on children's health?

into a sentence that can be understood by a bibliographic search tool, such as this one:

("atmospheric pollution" OR "air pollution" OR particle*) AND (health OR illness OR disease) AND (child* OR kid*)

→ What differences do you observe between the 2?

Use boolean operators

- Boolean (or logical or search) operators connect your search terms to either narrow or broaden your set of results. They are used in advanced searches in academic libraries' catalogues and databases.
- There are 3 Boolean operators:
 - › **AND narrows** your search by allowing you to **search 2 or more terms**
 - › **OR broadens** your search by allowing you to **search similar terms together**
 - › **NOT narrows** your search by excluding terms
- They usually appear in uppercase letters (AND, OR, NOT) to distinguish them from keywords.

Boolean operators

pollution **AND** health

Documents dealing **exclusively** with pollution **and** health

AND
= INTERSECTION

To find documents that only respond to the search words

child **OR** kid

Documents dealing with all the existing **synonyms** or **related terms** of a word

OR
= UNION

To find documents that respond to at least one of the words used in the search, or both.

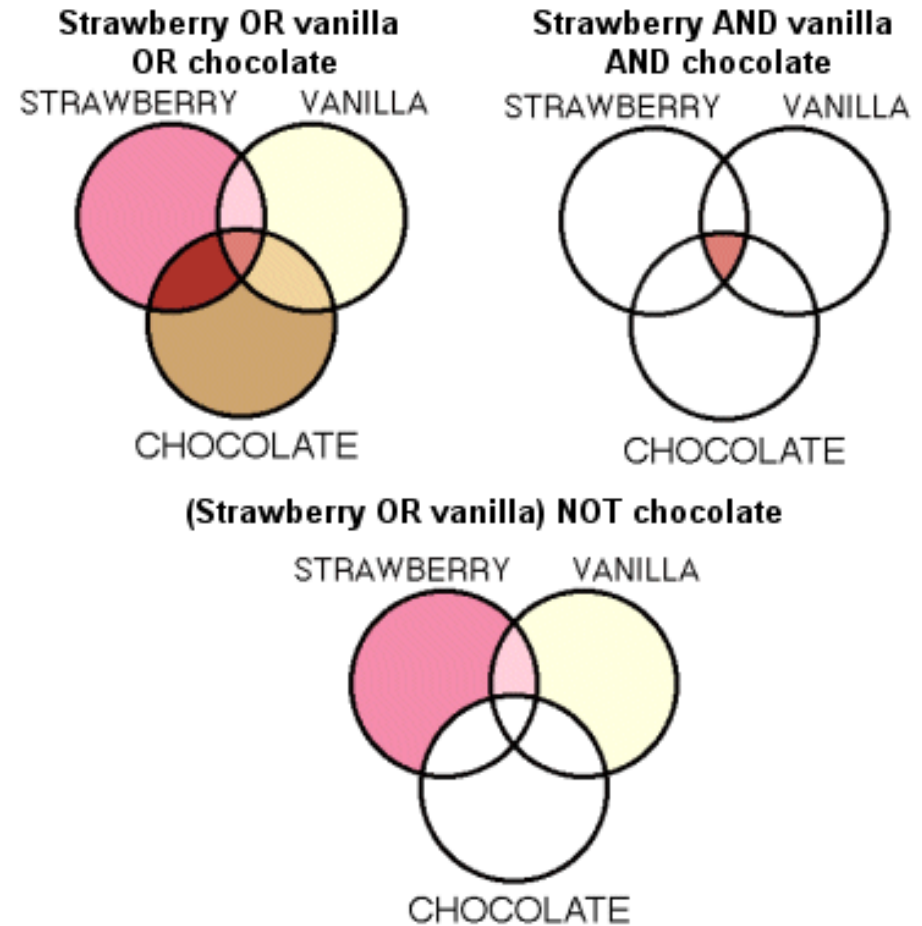
health **NOT** asthma

Documents dealing with health but **excluding** asthma

NOT
= EXCLUSION

To find documents that respond to the first search word but not the second.

- **AND** : both terms = **to limit** the search
- **OR** : either or both terms = **to broaden** the search
- **NOT** : excluding one term = **to limit** the search



The NOT operator may exclude relevant results.

Source Image : The story of mathematics -
http://www.storyofmathematics.com/19th_boole.html

Search tips



The **truncation**, or asterix, broadens your search to include word endings and spellings, e.g. child* for child, children, childhood



Put your search terms in **quotation marks** to have words appear as an exact phrase, e.g. "atmospheric pollution"



Brackets are used to structure a request :
("air pollution" OR particles) AND child



Avoid using words empty of meaning (i.e. **the, of, some, any**) as they are not recognized by databases

Your search question

→ Use a table to gather keywords and synonyms or related terms

Concepts	Concept 2	Concept 3
Concept 1	Synonym / related term	Synonym / related term
Concept 2	Synonym / related term	Synonym / related term
...		

→ Use a table to keep track of your searches and results obtained

Tool	Request	Date	Result
Pubmed	("lead poisoning/prevention and control"[MeSH Major Topic]) AND (2011:2023[pdat])	20/04/2023	174

Literature search and efficiency

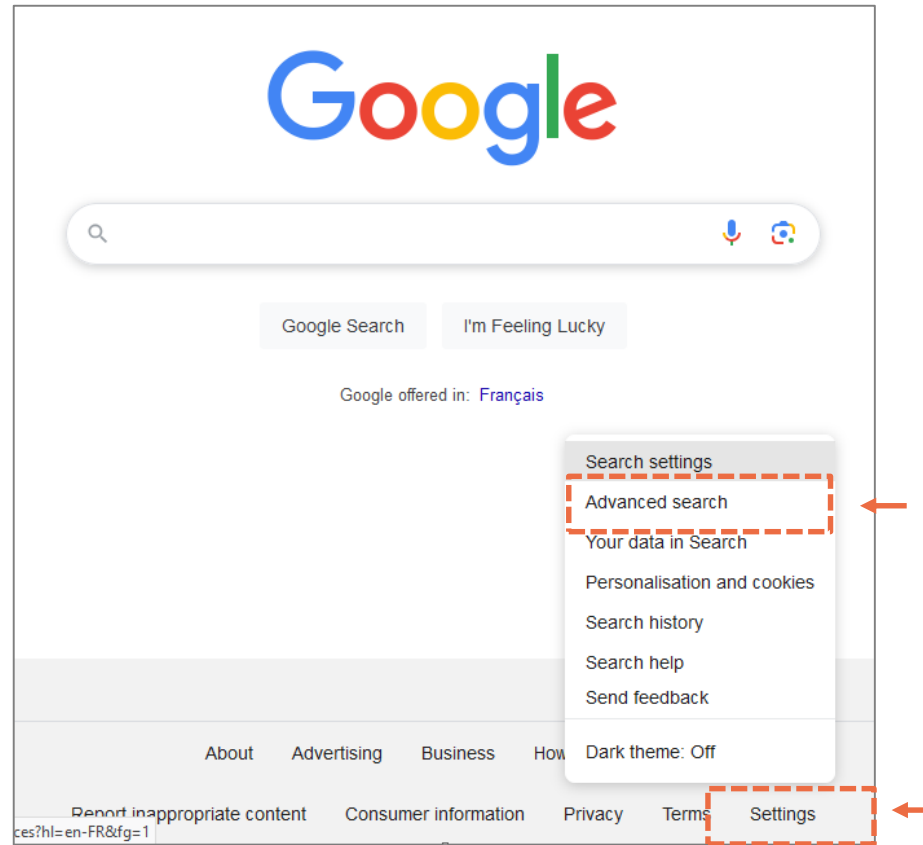
	To reduce noise (too many results)	To reduce silence (too few results)
Keywords	<p>Check the correct combination of keywords with Boolean operators</p> <p>Add a concept</p> <p>Use rare, discriminating and specific keywords / terms commonly used by the subject experts</p>	<p>Check the correct combination of keywords with Boolean operators</p> <p>Remove one or more of the concepts in your search</p> <p>Add synonyms to your search keywords</p> <p>Use more generic keywords / broaden your search</p>
Choosing search tools	<p>Choose a search tool with narrower disciplinary coverage</p> <p>Choose a search tool with a coverage that fits your topic</p>	<p>Choose a search tool with broader disciplinary coverage</p> <p>Choose a search tool with coverage that fits your topic</p>
Using search tools	<p>Check that you are using the correct syntax and query language</p> <p>Specify query criteria</p>	<p>Check that you are using the correct syntax and query language</p> <p>Expand query criteria</p>

Information retrieval


Google and Google Scholar

Google : advanced search for better results

→ In Google's settings, select "Advanced search" to open the formular.



Google : advanced search for better results



Advanced Search

Find pages with...

all these words:

this exact word or phrase:

any of these words:

none of these words:

numbers ranging from: to

To do this in the search box.

Type the important words: tri-colour rat terrier

Put exact words in quotes: "rat terrier"

Type OR between all the words you want: miniature OR standard

Put a minus sign just before words that you don't want: -rodent, -"Jack Russell"

Put two full stops between the numbers and add a unit of measurement: 10..35 kg, £300..£500, 2010..2011

Then narrow your results by...

language:

region:

last update:

site or domain:

terms appearing:

file type:

usage rights:

Find pages in the language that you select.

Find pages published in a particular region.

Find pages updated within the time that you specify.

Search one site (like wikipedia.org) or limit your results to a domain like .edu, .org or .gov

Search for terms in the whole page, page title or web address, or links to the page you're looking for.

Find pages in the format that you prefer.

Find pages that you are free to use yourself.

Advanced Search

15

2024-2025 / Direction de la documentation / STFD / Doc'Ispe - Février 2025

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2. Google Scholar

- Google Scholar is a Google product designed for searching academic sources.
- The access to full texts is variable : full text articles are either available in free access (what is called open archives) or using Library Links.
- Google Scholar allows users to affiliate with up to 5 university libraries. Creating this affiliation enables people searching in Google Scholar to easily obtain the full text of articles and other electronic materials licensed by the university academic libraries.
- This program works best for electronic resources. Don't forget to sign in on your ENT beforehand. Once you have configured Google Scholar to be affiliated with Bordeaux University, a link will appear in the results list (see screenshot on next slide).



Google Scholar : advanced search for better results

→ In Google Scholar's settings, select "Advanced search" to open the formular.

The screenshot displays the Google Scholar homepage with a sidebar on the left. The sidebar contains links to 'My profile', 'My library', 'Alerts', 'Metrics', 'Advanced search', and 'Settings'. The 'Advanced search' link is highlighted with a dashed orange box and an arrow pointing to it from the left. The 'Advanced search' modal is open, showing various search filters. The modal is also outlined with a dashed orange box. The filters include: 'Find articles' with options for 'all of the words', 'exact phrase', 'at least one of the words', and 'without the words'; 'where my words occur' with radio buttons for 'anywhere in the article' (selected) and 'in the title of the article'; 'Return articles authored by' with a text input field and example 'e.g., "PJ Hayes" or McCarthy'; 'Return articles published in' with a text input field and example 'e.g., J Biol Chem or Nature'; and 'Return articles dated between' with two date input fields and example 'e.g., 1996'.

Google Scholar : library settings

- In Google Scholar's settings, select "Université de Bordeaux" in the **Library links** to access our subscriptions.

The screenshot shows the Google Scholar settings interface. A red dashed circle highlights the menu icon (three horizontal lines) in the top left corner, with a red arrow pointing to it. Below the menu icon, a red dashed box highlights the 'Settings' link. In the left sidebar, a red dashed box highlights the 'Library links' option, with a red arrow pointing to the search input field. The search input field contains the text 'université de bordeaux'. Below the search input, a red dashed box highlights the list of library links, which includes three entries: 'Système universitaire de documentation - SUDOC Catalogue' (checked), 'Université Bordeaux Montaigne - Trouver @ Bdx Montaigne' (unchecked), and 'Université de Bordeaux - Accès Univ. Bordeaux' (checked). At the bottom right, a red dashed box highlights the 'Save' button. Below the 'Save' button, there is a note: 'To retain settings, you must turn on cookies'.

Google Scholar

Settings

Search results
Languages
Library links
Account
Browser extensions

Show library access links for (choose up to five libraries):

université de bordeaux

e.g., Harvard

☒ Système universitaire de documentation - SUDOC Catalogue
☐ Université Bordeaux Montaigne - Trouver @ Bdx Montaigne
☒ Université de Bordeaux - Accès Univ. Bordeaux

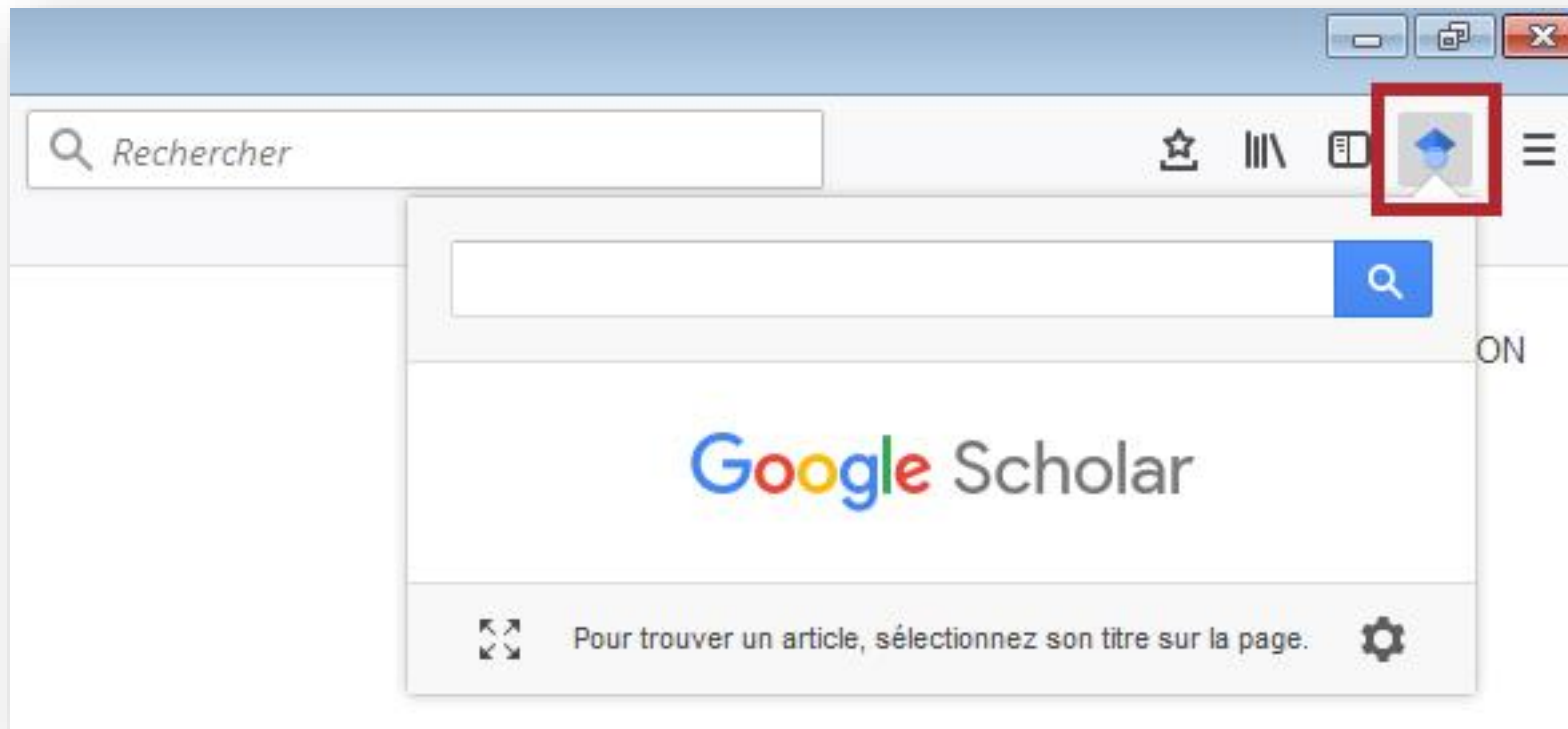
Online access to library subscriptions is usually restricted to patrons of that library. You may need to login with your library password, use a campus computer, or configure your browser to use a library proxy. Please visit your library's website or ask a local librarian for assistance.

Save Cancel

To retain settings, you must turn on cookies

Google Scholar : plugin for the navigator

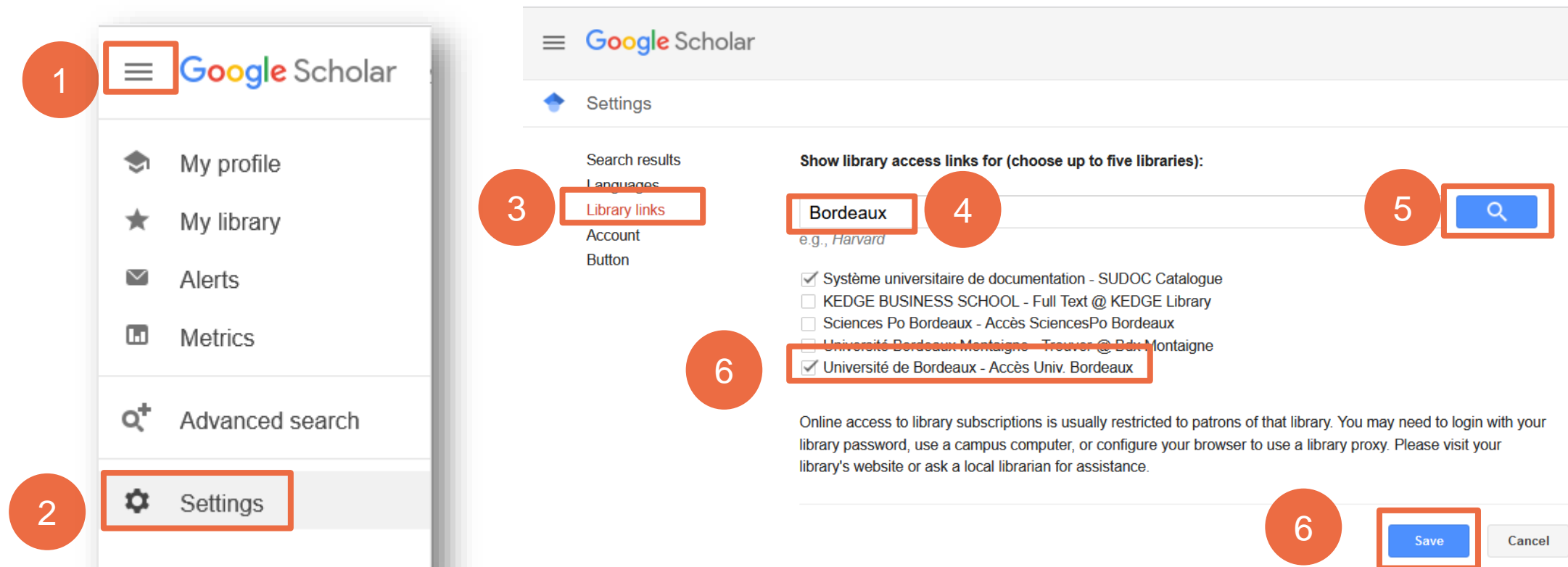
- This extension adds a browser button for easy access to Google Scholar from any web page.



Google Scholar

Set up the Library link on Google Scholar to access our subscription resources:

1. Click on the **menu icon** (top left corner)
2. Click on **Settings**
3. Click on **Library links**
4. Search **Université de Bordeaux**
5. Click on the magnifying glass icon
6. Check the box **Université de Bordeaux - Accès Univ Bordeaux**
7. Click on the **Save** button



Google Scholar

Google Scholar

"cognitive functioning" OR memory

Articles

Environ 7 270 000 résultats (0,03 s)

Date indifférente

Depuis 2025

Depuis 2024

Depuis 2021

Période spécifique...

Trier par pertinence

Trier par date

Toutes les langues

Recherche dans les pages en Français

Tous les types

Articles de revue

☐ inclure les brevets

☒ inclure les citations

☒ Créer l'alerte

Introduction: Between **memory and **memory**: From Lieux de mémoire to Noeuds de mémoire**

[M Rothberg](#) - [Yale French Studies](#), 2010 - JSTOR

... of history and **memory** and ... **memory** is premised on the demise of **memory**! As Nora polemically insisted in the first paragraph of his programmatic general introduction "Between **Memory** ...

☆ Enregistrer 99 Citer Cité 301 fois Autres articles Les 2 versions

Between **memory and history: Les lieux de mémoire**

[P Nora](#) - [representations](#), 1989 - JSTOR

... call **memory** today is therefore not **memory** but already history. What we take to be flare-ups of **memory** are in fact its final consumption in the flames of history. The quest for **memory** is ...

☆ Enregistrer 99 Citer Cité 14088 fois Autres articles Les 18 versions

Working **memory**

[A Badddeley](#) - [Science](#), 1992 - science.org

The term working **memory** refers to a brain system that provides temporary storage and manipulation of the information necessary for such complex cognitive tasks as language ...

☆ Enregistrer 99 Citer Cité 33044 fois Autres articles Les 19 versions

The development of **memory**

[SE Gathercole](#) - [The Journal of Child Psychology and Psychiatry and ...](#), 1998 - cambridge.org

... This article reviews recent advances in understanding the changes in **memory** ... of **memory** are considered: short-term **memory**, comprising phonological **memory**, visuospatial **memory**, ...

☆ Enregistrer 99 Citer Cité 990 fois Autres articles Les 11 versions

[HTML] **Working **memory****

[A Badddeley](#) - [Current biology](#), 2010 - cell.com

... that in simulating such patients using concurrent digit **memory**, we had systematically loaded up the loop, at the same time as placing only a modest load on the rest of working **memory**. ...

☆ Enregistrer 99 Citer Cité 2396 fois Autres articles Les 17 versions

[LIVRE] **Memory**

[EF Loftus](#) - 1988 - books.google.com

... **Memory** is a powerful force, even if it isn't always accurate. And it isn't. But before we can ... bases for **memory's** inaccuracy, it is important to look at displays of **memory's** power, such as ...

☆ Enregistrer 99 Citer Cité 486 fois Autres articles Les 2 versions

[PDF] jstor.org

[PDF] jstor.org

[PDF] jstor.org

[PDF] wiley.com

Accès Univ. Bordeaux

[HTML] cell.com

Accès Univ. Bordeaux

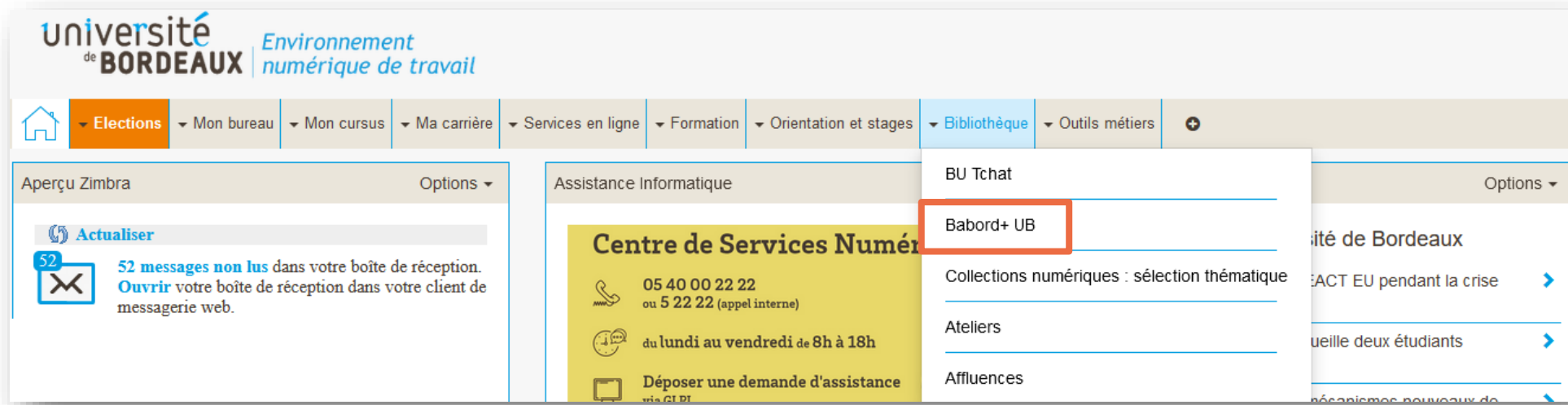
Information retrieval

Babord + and other services
(BU Tchat, Interlibrary loan)

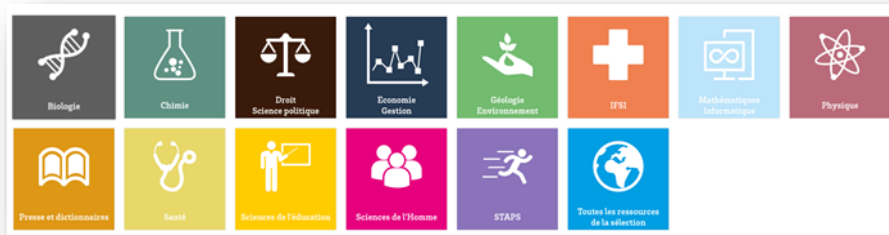
UB Documentary Resources

Under the tab **Bibliothèque**, you have access to :

- **Babord+ UB** : Bordeaux University's academic libraries online catalogue.



- **Collections numériques** : a list of our subscriptions to databases, organized thematically.



Babord +

- Babord+ locates physical or online documents from the entire academic libraries' network.
- Don't forget to log in on your ENT. This enables your off-campus access to licensed e-resources.
- You'll be able to view your library account.
- You can change the language displayed.

The screenshot displays the Babord+ website interface. At the top, there are navigation links: Journal Search, DOI | PMID Search, Libraries, nous contacter, and collection discovery. A search bar with the placeholder text "Search anything" is prominently featured. To the right, a user menu is visible, showing options like "Langue d'affichage : Français", "Mon compte lecteur", "Mes notices enregistrées", and "Mon historique de recherche". The central part of the page features a circular hub with arrows pointing to various resource categories: Articles, Books, Journals, Dissertations, Educational documents, and Datasets. Below this hub, a section titled "Babord+" explains its purpose: "Babord+ allows users to see many types of resources from the libraries of the Universities of Bordeaux. Babord+ provides one-stop searching for books, journals, articles, dissertations, educational documents, DVD, datasets, psychological tests, etc ... physical or online. To complete your search, think about our database list, and our tutorials playlist." At the bottom, there is a "WHY SIGN IN" section with a list of five reasons to sign in, each numbered 1 through 5.

Journal Search | DOI | PMID Search | Libraries | nous contacter | collection discovery

Search anything

Langue d'affichage : Français

Mon compte lecteur

Mes notices enregistrées

Mon historique de recherche

Babord+

Babord+ allows users to see many types of resources from the libraries of the Universities of Bordeaux. Babord+ provides one-stop searching for books, journals, articles, dissertations, educational documents, DVD, datasets, psychological tests, etc ... physical or online. To complete your search, think about our database list, and our tutorials playlist.

WHY SIGN IN | SEARCH ADVICES | BABORD+ TUTORIALS

5 reasons to Sign in

- 1 Enable your off-campus access to licensed e-resources.
- 2 Save your searches.
- 3 View your library account.
- 4 Place hold / renew a resource.
- 5 Request digitization of a public-domain document.

Babord + : Advanced search

Too many results ?
Narrow them down by searching
with **'Title'** instead of 'Any field'

You can filter by :

- material type
- language
- publication date

Change the
Boolean operator

Add lines

The screenshot shows the Babord+ search interface. At the top, a 'SEARCH CRITERIA' section is collapsed. Below it, the 'Search Filters' section contains three rows of search criteria. The first row has a dropdown menu set to 'Title' and a text input field containing '"atmospheric pollution" OR "air pollution" OR particle*'. The second row has a dropdown menu set to 'Title' and a text input field containing 'health OR illness OR disease'. The third row has a dropdown menu set to 'Any field' and a text input field containing 'child* OR kid*'. The Boolean operator 'AND' is selected between the first and second rows, and between the second and third rows. A red box highlights the 'AND' operator in the first row. A red box highlights the 'Title' dropdown in the first row. A red box highlights the text input field in the first row. A red box highlights the 'Title' dropdown in the second row. A red box highlights the text input field in the second row. A red box highlights the 'AND' operator between the second and third rows. A red box highlights the 'Any field' dropdown in the third row. A red box highlights the text input field in the third row. A red box highlights the 'Add a new line' button. A red box highlights the 'Clear' button. A red box highlights the '1 concept per line, followed by OR and synonyms' text. A red box highlights the 'Material Type' filter dropdown menu. A red box highlights the 'Language' filter dropdown menu. A red box highlights the 'Publication Date' filter dropdown menu. A red box highlights the 'Any year' filter dropdown menu. A red box highlights the 'Search' button.

SEARCH CRITERIA

Search Filters

Title contains "atmospheric pollution" OR "air pollution" OR particle*

AND Title contains health OR illness OR disease

AND Any field contains child* OR kid*

+ Add a new line Clear

1 concept per line, followed by OR and synonyms

Material Type
All items
Language
Any language
Publication Date
Any year

→ Title contains "atmospheric pollution" OR "air pollution" OR particle*
AND Title contains health OR illness OR disease AND Any field contains child* OR kid* Search

Babord + : Filters

Use filters to narrow the results of your search :




Click on “**Remember all filters**” to save them for your next search

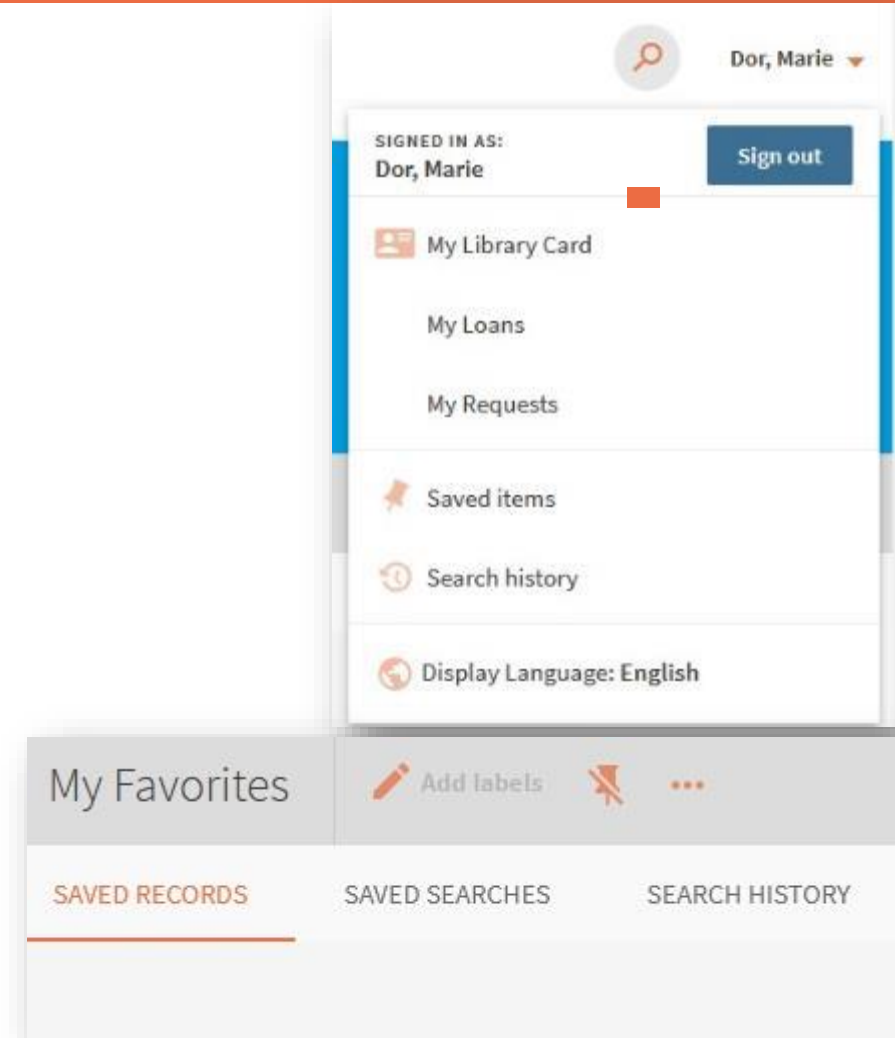
Institution :
Université de Bordeaux

The screenshot displays the Babord+ search interface. On the left, the 'Active filters' sidebar is visible, with 'Remember all filters' highlighted by a red box and an arrow pointing from the instruction text. Below it, the 'Institution' filter is also highlighted with a red box and an arrow pointing from the 'Université de Bordeaux' text. The main search results area shows three items: 1. An article titled 'Children exposure to atmospheric particles in indoor of Lisbon primary schools' by Almeida, Susana Marta; Canha, Nuno; Silva, Ana; Freitas, Maria do Carmo; Pegas, Priscilla; Alves, Célia; Evtugina, Margarita; Pio, Casimiro Adrião. 2. A book titled 'Valutazione economica degli effetti sanitari dell'inquinamento atmosferico : la metodologia dell'EEA' by a cura di Giorgio Assennato, published in 2015. 3. An article titled 'Associations between long-term exposure to low-level air pollution and risk of chronic kidney disease—findings from the Malmö Diet and Cancer cohort' by Xu, Yiyi; Andersson, Eva M; Krage Carlsen, Hanne; Molnár, Peter; Gustafsson, Susanna; Johannesson, Sandra; Oudin, Anna; Engström, Gunnar; Christensson, Anders; Stockfelt, Leo. The interface includes a top bar with '0 selected', 'PAGE 1', '1-50 of 47,664 result(s)', and a 'Save query' button. Each result item has a list of icons for actions like citation, email, and saving.

Babord + : Reader account

Your Babord+ reader account (top right corner) is available upon signing in. You can then :

- See your search history 
- Check your loans
- Place a hold (My Requests)
- Renew a document (My Loans)
- Pin a result  and create labels to organize your results (Saved records)
- Set up alerts (email) 
- Request digitization of a public-domain document
- Export your results with Zotero





- Our librarians are here to help you.
- We offer an online chat service from Monday-Friday, 9am-5pm.
- You can find BU Tchat on your ENT under the tab 'Bibliothèque'.

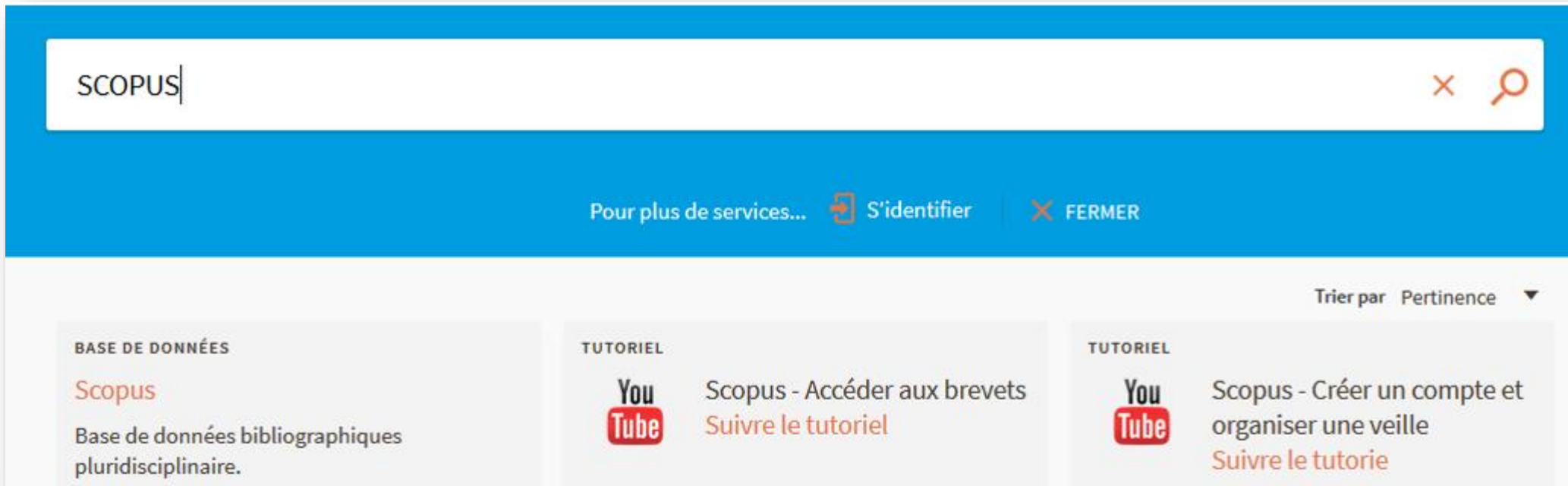
Our chat service can be accessed by clicking on the chat icon (bottom right side of your screen.)



The BU Tchat pop up window will also

Access to databases from Babord+

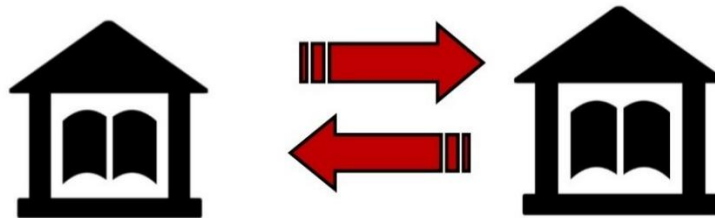
You can find SCOPUS (and any other databases subscribed by Bordeaux University) by typing its name in the search bar of Babord+. Don't forget to log in on your ENT, it will enable your off-campus access to licensed e-resources



PEB – Interlibrary loan

- The interlibrary loan service provides access to library materials that are not available within Bordeaux University's collections.
- It is a useful, free service for researchers and students to request items from other academic institutions in France. There is a fee, however, for requesting printed documents from abroad.
- Complete this online form with the document reference and your contact details (name, student ID card number, email and phone number) :
<http://busec2.u-bordeaux.fr/peb/>

InterLibrary Loan



Information retrieval

Search in open access platforms and databases

What is openness?

→ “Open means **anyone** can **freely access, use, modify, and share** for **any purpose** (subject, at most, to requirements that preserve provenance and openness).”
(Open Definition)



Hacking scientific papers : Sci-Hub



- **Sci-Hub** is a shadow library website that provides free access to millions of research papers, without regard to copyright, by bypassing publishers' paywalls in various ways.
- Sci-Hub was founded in Kazakhstan by Alexandra Elbakyan in 2011
- The site is extensively used worldwide. In September 2019, the site's operator(s) said that it served approximately 400,000 requests per day.
- Sci-Hub has been estimated to contain 95% of all scholarly publications with issued DOI numbers. Sci-Hub reported on 15 July 2022 that its collection comprises 88,343,822 files.
- Sci-Hub and Elbakyan were sued twice for copyright infringement in the United States, in 2015 and 2017, and lost both cases by default, leading to loss of some of its Internet domain names. The site has cycled through different domain names since then.
- **Researchers and PHD students should be aware that accessing such websites is illegal, as it hosts stolen intellectual property.**

Academic Social Networks

- **Academic Social Networks** (ASNs) are similar to social networking sites, but designed for the academic community. These online platforms allow you to develop a profile and connect with other researchers, while also allowing you to share academic related content. These tools are typically free to use. The most attractive feature of these sites is their offer of a user-friendly way to present your research articles and other scholarly outputs to your colleagues and scholarly communities worldwide.
- However, if you are looking to preserve and make your scholarly output discoverable in a trusted, non-commercial space, an institutional or subject open archive repository may be a better solution. **HAL** is a free and secure research repository created by the CNRS to disseminate and preserve the scholarly record of academic research in France. (Oskar in Bordeaux)

Academic Social Networks



R^G **researchGate**

- ResearchGate is a commercial social networking site for researchers. A researcher is able to create a profile, share papers, engage in discussion, and find collaborators. Some metrics exclusive to this platform are also available.
- • To create a profile: <https://www.researchgate.net>



A **cademia**

- Academic.edu is a commercial social networking site for researchers. A researcher can create a profile, upload their work, and select areas of interest to find networks of users with similar interests. Analytics related to engagement with uploaded research is available.
- • To create a profile: <https://www.academia.edu>

Using open available resources



- The open science movement's aims are to facilitate access to scientific content and encourage its reuse.
- Often we speak of **open-access resources**: thanks to their author and/or publisher, these resources can be freely accessed without researchers or their institutions having to pay.
- **Open access journal platforms**: Open access journals can have diverse business and editorial models : exemples.
 - › **OpenEdition Journals** offers 450 online publications in the humanities and social sciences.
 - › **Persée** digitises and disseminates entire collections of journals retrospectively.

Using open available resources

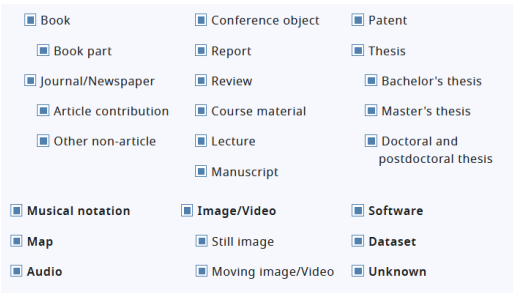
→ **Specialized search engines:** These aggregate open access content to make them easier to discover.



- › **Core** (core.ac.uk) is a search engine specialising in open access academic publications (books, articles, theses, etc.).



- › **BASE** is one of the world's most voluminous search engines especially for academic web resources. BASE provides more than 300 million documents from more than 10,000 [content providers](#). You can access the full texts of about 60% of the indexed documents for free (Open Access). BASE is operated by Bielefeld University Library.



- › **Click & Read** Developed by the CNRS to facilitate access to documents it can be installed as a browser extension and offers free access versions of all the articles available in its database.

Using open available resources

→ Databases for theses or academic works:

These databases aggregate the digital thesis collections of universities and research centres.



→ Visit

- › **Dart-Europe** : founded in 2005 as a partnership of national and university libraries and consortia to improve global access to European research theses. It will be discontinued at the end of 2025.
- › **Open Access Thesis and Dissertation (OATD)**. OATD.org aims to be the best possible resource for finding open access graduate theses and dissertations published around the world. Metadata (information about the theses) comes from over 1100 colleges, universities, and research institutions. OATD currently indexes 6,511,367 theses and dissertations.

→ Open archives: These may be institutional or thematic, and scientific productions are deposited in the archives by researchers themselves for free consultation.

- › **HAL**, the multidisciplinary archive for French research.
- › **Oskar Bordeaux** : is the institutional open repository of the University of Bordeaux and its partners.

Thank you